


```
FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEE AAAA AA DDDDDDD I I I I I 000000
FFFFFFFFF 000000 RRRRRRRR RRRRRRRR EEEEEEEEE AAAA AA DDDDDDD I I I I I 000000
FF 00 00 RR RR RR RR EE AA AA DD DD I I 00 00
FF 00 00 RR RR RR RR EE AA AA DD DD I I 00 00
FF 00 00 RR RR RR RR EE AA AA DD DD I I 00 00
FF 00 00 RR RR RR RR EE AA AA DD DD I I 00 00
FFFFFFFF 00 00 RRRRRRRR RRRRRRRR EEEEEEE AA AA DD DD I I 00 00
FFFFFFFF 00 00 RRRRRRRR RRRRRRRR EEEEEEE AA AA DD DD I I 00 00
FF 00 00 RR RR RR RR EE AA AA DD DD I I 00 00
FF 00 00 RR RR RR RR EE AA AA DD DD I I 00 00
FF 00 00 RR RR RR RR EE AA AA DD DD I I 00 00
FF 00 00 RR RR RR RR EE AA AA DD DD I I 00 00
FF 000000 RR RR RR RR EE AA AA DDDDDDD I I I I I 000000
FF 000000 RR RR RR RR EE AA AA DDDDDDD I I I I I 000000
LL I I I I I SSSSSSSS
LL I I I I I SSSSSSSS
LL I I SS
LL I I SS
LL I I SS
LL I I SSSSSS
LL I I SSSSSS
LL I I SS
LL I I SS
LL I I SS
LL I I SS
LLLLLLLLLL I I I I I SSSSSSSS
LLLLLLLLLL I I I I I SSSSSSSS
```

(2)	56	HISTORY	: Detailed Current Edit History
(3)	86	DECLARATIONS	
(4)	134	FORSREAD_IO -	READ INTERNAL OBJECT-FORMATTED


```
0000 1 .TITLE FOR$READ_10 - entry point for FORTRAN READ INTERNAL OBJECT-FORMATTED
0000 2 .IDENT /1-012/ File: FORREADIO.MAR Edit: JAW1012
0000 3
0000 4 *****
0000 5 *
0000 6 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
0000 7 * DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.
0000 8 * ALL RIGHTS RESERVED.
0000 9 *
0000 10 * THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED
0000 11 * ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE
0000 12 * INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER
0000 13 * COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY
0000 14 * OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY
0000 15 * TRANSFERRED.
0000 16 *
0000 17 * THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE
0000 18 * AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT
0000 19 * CORPORATION.
0000 20 *
0000 21 * DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
0000 22 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0000 23 *
0000 24 *
0000 25 *****
0000 26
0000 27
0000 28 ++
0000 29 FACILITY: FORTRAN Support Library - user callable
0000 30
0000 31 ABSTRACT:
0000 32
0000 33 This module contains the entry point for the FORTRAN
0000 34 READ INTERNAL OBJECT-FORMATTED I/O statement. It is simply
0000 35 a call to FOR$$IO_BEG with bits in R0 which describe the
0000 36 parameter list. FOR$$IO_BEG interprets the parameters.
0000 37
0000 38 MAINTENANCE NOTE:
0000 39 The transfer vector (RTLVECTOR+ALLGBL) must have the following:
0000 40
0000 41 .TRANSFER FOR$READ_10
0000 42 .MASK FOR$$IO_BEG
0000 43 BRW FOR$READ_10+2
0000 44
0000 45 This puts the correct mask in entry vector, that is FOR$$IO_BEG entry mask.
0000 46 Furthermore this module must only use R0 and R1
0000 47 since any other register might not be in the entry mask for FOR$$IO_BEG.
0000 48
0000 49 ENVIRONMENT: User access mode; mixture of AST level or not
0000 50
0000 51 AUTHOR: Richard B. Grove, CREATION DATE: 28-May-78
0000 52
0000 53 MODIFIED BY:
0000 54 T. Hastings, 29-July-78
```

FOR\$READ_IO
1-012

F 3

- entry point for FORTRAN READ INTERNAL 15-SEP-1984 23:57:13 VAX/VMS Macro V04-00
HISTORY ; Detailed Current Edit History 6-SEP-1984 10:59:11 [FORRTL.SRC]FORREADIO.MAR;1

Page 2
(2)

```
0000 56      .SBTTL HISTORY      ; Detailed Current Edit History
0000 57
0000 58
0000 59 : Edit History for Version 1
0000 60 :
0000 61 : 0-10 - Add comment about vectors. TNH 23-June-78
0000 62 : 0-12 - Pass arg in R0, not R0R, add comments. TNH 29-July-78
0000 63 : 1-001 - Update version number and copyright notice. JBS 16-NOV-78
0000 64 : 1-002 - Change statement type symbols to be LUB$K... JBS 07-DEC-78
0000 65 : 1-003 - Change statement type symbols to be ISB$K... JBS 11-DEC-78
0000 66 : 1-004 - Add " " to the PSECT directive. JBS 22-DEC-78
0000 67 : 1-005 - Add FOR$READ_KF, FOR$READ_KO, FOR$REWRITE_SF, FOR$REWRITE_SO,
0000 68 : FOR$READ_IF, FOR$READ_IO, FOR$WRITE_IF, FOR$WRITE_IO,
0000 69 : FOR$READ_KU, FOR$REWRITE_SU,
0000 70 : SBL 2-May-1979
0000 71 : 1-006 - Remove all entry points that need object time formatting,
0000 72 : putting them in FOR$ENTRY_OBJ so that we can arrange to
0000 73 : load the format compiler only when it is needed.
0000 74 : JBS 26-JUN-1979
0000 75 : 1-007 - Remove entry point FOR$ENCODE_MF; we will code a new module
0000 76 : for it and FOR$$IO_BEG, to see how much I/O initiation time
0000 77 : improves. JBS 02-JUL-1979
0000 78 : 1-008 - Do likewise for FOR$READ_DU and FOR$WRITE_DU. JBS 03-JUL-1979
0000 79 : 1-009 - Remove all entry points and add FOR$READ_IO; each entry
0000 80 : point gets its own module so we can selectively load
0000 81 : the necessary UDF and REC modules. JBS 09-JUL-1979
0000 82 : 1-010 - Correct a typo that caused a data truncation error. JBS 10-JUL-1979
0000 83 : 1-011 - New parameter format for FOR$$IO_BEG. SBL 5-Dec-1979
0000 84 : 1-012 - Change BRW FOR$$IO_BEG+2 to JMP G^FOR$$IO_BEG+2. JAW 21-Feb-1981
```



```
0000 86      .SBTTL  DECLARATIONS
0000 87
0000 88
0000 89      : INCLUDE FILES:
0000 90      :
0000 91
0000 92      $FORPAR      : Define inter-module FORTRAN symbols
0000 93      $ISBDEF      : Define statement type symbols
0000 94
0000 95
0000 96      : EXTERNAL SYMBOLS:
0000 97      :
0000 98
0000 99      .DSABL  GBL      : Declare all external symbols
0000 100     .EXTRN  FOR$$IO_BEG      : common I/O statement processing
0000 101
0000 102     :+ The following references are to make sure the necessary UDF and REC
0000 103     : modules are loaded. These are the routines which are called through
0000 104     : the dispatch tables in FOR$$DISPAT.
0000 105     :-
0000 106     .EXTRN  FOR$$UDF_RFO, FOR$$UDF_RF1, FOR$$UDF_RF9
0000 107     .EXTRN  FOR$$REC_RIF0, FOR$$REC_RIF1, FOR$$REC_RIF9
0000 108     :+
0000 109     : The following reference makes sure the format compiler is loaded.
0000 110     :-
0000 111     .EXTRN  FOR$$FMT_COMPIL
0000 112
0000 113
0000 114     : MACROS:
0000 115     :
0000 116     : NONE
0000 117     :
0000 118     : PSECT DECLARATIONS:
0000 119     :
0000 120
0000 121     .PSECT  _FOR$CODE PIC,USR,CON,REL,LCL,SHR,EXE,RD,NOWRT,LONG
0000 122
0000 123     : EQUATED SYMBOLS:
0000 124     :
0000 125     :
0000 126     :
0000 127
0000 128     : OWN STORAGE:
0000 129     :
0000 130     : NONE
0000 131     :
0000 132     :
```

```
0000 134 .SBTTL FOR$READ_IO - READ INTERNAL OBJECT-FORMATTED
0000 135
0000 136 :++
0000 137 : FUNCTIONAL DESCRIPTION:
0000 138 :
0000 139 : Initialize the FORTRAN I/O system to perform
0000 140 : a READ INTERNAL OBJECT-FORMATTED I/O statement.
0000 141 :
0000 142 : CALLING SEQUENCE:
0000 143 :
0000 144 : CALL FOR$READ_IO (user_vbl.rt.dx, format_adr.rt.r
0000 145 : [, err_adr.j.r [, end_adr.j.r]])
0000 146 :
0000 147 : INPUT PARAMETERS:
0000 148 :
0000 149 : user_vbl.rt.dx User's string variable
0000 150 : format_adr.rt.r format string (needs compilation)
0000 151 : [err_adr.j.r] optional ERR= address
0000 152 : [end_adr.j.r] optional END= address
0000 153 :
0000 154 : IMPLICIT INPUTS:
0000 155 :
0000 156 : NONE except those used by FOR$$IO_BEG.
0000 157 :
0000 158 : OUTPUT PARAMETERS:
0000 159 :
0000 160 : NONE
0000 161 :
0000 162 : IMPLICIT OUTPUTS:
0000 163 :
0000 164 : NONE except those left by FOR$$IO_BEG.
0000 165 :
0000 166 : COMPLETION CODES:
0000 167 :
0000 168 : NONE
0000 169 :
0000 170 : SIDE EFFECTS:
0000 171 :
0000 172 : NONE except those of FOR$$IO_BEG.
0000 173 :
0000 174 : --
0000 175 :
50 0112 8F 0000' 0000 176 FOR$READ_IO:: .MASK FOR$$IO_BEG
0000 177 MOVZWL #ISB$K ST TY_RIF+ -
0000 178 <1@FOR$V OBJ-FMT>, R0 ; Statement type
0000 179 JMP G^FOR$$IO_BEG+2 ; branch past call mask
0000 180
0000 181
0000 182 .END
```

FOR\$READ_10
Symbol table

- entry point for FORTRAN READ INTERNAL

15-SEP-1984 23:57:13
6-SEP-1984 10:59:11

VAX/VMS Macro V04-00
[FORRTL.SRC]FORREADIO.MAR;1

Page 5
(4)

FOR\$\$FMT_COMPIL	*****	X	00
FOR\$\$IO_BEG	*****	X	00
FOR\$\$REC_RIF0	*****	X	00
FOR\$\$REC_RIF1	*****	X	00
FOR\$\$REC_RIF9	*****	X	00
FOR\$\$UDF_RF0	*****	X	00
FOR\$\$UDF_RF1	*****	X	00
FOR\$\$UDF_RF9	*****	X	00
FOR\$READ_10	00000000	RG	01
FOR\$V_OBJ_FMT	= 00000008		
ISB\$K_ST_TY_RIF	= 00000012		

! Psect synopsis !

PSECT name	Allocation	PSECT No.	Attributes														
ABS	00000000 (0.)	00 (0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE				
_FOR\$CODE	0000000D (13.)	01 (1.)	PIC	USR	CON	REL	LCL	SHR	EXE	RD	NOWRT	NOVEC	LONG				

! Performance indicators !

Phase	Page faults	CPU Time	Elapsed Time
Initialization	30	00:00:00.10	00:00:00.91
Command processing	119	00:00:00.59	00:00:02.83
Pass 1	124	00:00:01.28	00:00:04.88
Symbol table sort	0	00:00:00.18	00:00:00.61
Pass 2	47	00:00:00.48	00:00:01.56
Symbol table output	3	00:00:00.01	00:00:00.20
Psect synopsis output	2	00:00:00.02	00:00:00.05
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	327	00:00:02.67	00:00:11.04

The working set limit was 1050 pages.
6711 bytes (14 pages) of virtual memory were used to buffer the intermediate code.
There were 20 pages of symbol table space allocated to hold 188 non-local and 0 local symbols.
182 source lines were read in Pass 1, producing 8 object records in Pass 2.
9 pages of virtual memory were used to define 2 macros.

! Macro library statistics !

Macro library name	Macros defined
_\$255\$DUA28:[FORRTL.OBJ]FORRTL.MLB;1	2
_\$255\$DUA28:[SYSLIB]STARLET.MLB;2	0
TOTALS (all libraries)	2

183 GETS were required to define 2 macros.

There were no errors, warnings or information messages.

FORSREAD IO - entry point for FORTRAN READ INTERNAL J 3 15-SEP-1984 23:57:13 VAX/VMS Macro V04-00 Page 6
VAX-11 Macro Run Statistics 6-SEP-1984 10:59:11 [FORRTL.SRC]FORREADIO.MAR;1 (4)
MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LISS:FORREADIO/OBJ=OBJ\$:FORREADIO MSRC\$:FORREADIO/UPDATE=(ENH\$:FORREADIO)+LI

0183

AH-BT13A-SE
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION
CONFIDENTIAL AND PROPRIETARY